FIRST

Do No Harm

In this Issue:

Patient Care Assessment Division, Board of Registration in Medicine

June, 2008

THE DIAGNOSIS NEVER CONSIDERED IS THE DIAGNOSIS NEVER MADE

John Herman, M.D. Chair Board of Registration in Medicine, Chair PCA Committee

A physician's medical practice intelligently balances evidence-based knowledge with the judgment learned from hard won clinical and life experience. Caring for their patient, the master clinician synthesizes vast amounts of data and relies upon personal "pattern recognition" mental filter, the complex, high-level neuro-cognitive ability referred to more commonly as "the art of medicine. "

While my own tenure is a small part of the PCA's life, I have examined the evidence and exchanged my experiences with those of my friends and PCA predecessors, Martin Crane and Dinesh Patel. What patterns can we recognize after 20 years of the Patient Care Assessment project?

Utmost is our continued challenge to educate hospitals, their leaders, their clinicians, and particularly their risk-management lawyers, that "a report to the PCA" is not risky. Evidence: after all these years and thousands of reports to the PCA there has not been an investigation or disciplinary action against any clinician, nor public disclosure about any hospital as a consequence of a report submitted to PCA. Period!

What IS risky and frustrates our efforts to reduce risk, is all that we don't know about just how much is done within your facilities. This requires information from you which can be assessed, measured, used to form hypotheses, revised, and measured again. The widespread, but unfounded fear of individual and institutional exposure and liability has greatly limited data flow from institutions to the PCA. This has undermined the PCA's founding vision that the reporting and evaluation of aggregate information would create a reliable, valued system of discovery and early warning benefiting the citizens of the Commonwealth. PCA has worked hard to understand and reduce the reluctance to "report," as well as to recognize the many improvements made by facilities.

The pattern I described above has not at all daunted my optimism for PCA's mission and the future of quality, safety, error prevention and healthcare improvement in the Commonwealth. This is because I have noticed another pattern: throughout our state scores and scores of healthcare facilities are independently implementing their own impressive agenda to adopt and integrate safety principles and practices into the culture of their organizations.

Hospitals have shared with us the news of many, many impressive examples of "good catches" and superb performance improvement projects. We love hearing these stories and spreading the word. This month's newsletter will share a few. Maybe your safety discovery deserves to be shared, too?

PCA RECOGNITION OF QUALITY

PCA recognizes the following hospitals for demonstrating that they have quality improvement and patient safety systems designed to assure that patients receive the highest quality of care. Safety and Quality Review Reports submitted by these hospitals provide evidence of multidisciplinary review, multi-focused investigations, analysis of data, and implementation of appropriate corrective actions or performance improvement measures. This collaboration with PCA is a unique and effective instrument in our mutual efforts to attain excellence in the care provided to patients in the Commonwealth.

Berkshire Medical Center

Caritas Norwood Hospital

Emerson Hospital

HealthAlliance Hospital

Holyoke Medical Center

Lowell General Hospital

New Bedford Rehabilitation Hospital

Newton Wellesley Hospital

Northeast Hospital Corporation

North Shore Medical Center

Medical Board Mission

The overriding mission of the Board is to serve the public by striving to ensure that only qualified physicians are licensed to practice in the Commonwealth, to ensure that those physicians and health care institutions in which they practice provide to their patients a high standard of care, and to support an environment that maximizes the high quality of health care in Massachusetts.

Nancy Achin Audesse, Executive Director of the Board of Registration in Medicine, recently announced her retirement after 10 years of service to the Board. Throughout her tenure, Ms. Audesse has carried out the Mission of the Board, determined to assure that Massachusetts is a leader in quality health care.

Ms. Audesse has been a tireless advocate for patients' rights in Massachusetts and throughout the country. As a teenager, she overcame a battle with Hodgkin's Disease, a lymphatic cancer, to graduate from Harvard University. After a successful business career, Ms. Audesse turned to public service. She worked to meet the needs of inner-city children as the Executive Director of the Lowell Girls Club and was active in numerous civic and cultural activities in her hometown of Lowell, Massachusetts. This sense of public service led her to run, successfully, for the Massachusetts State Senate in 1990. As a Senator, she responded to many health care issues affecting the people of Massachusetts.

In 1996, Ms. Audesse led the successful effort to implement the Board of Registration in Medicine's Physician Profiles program, a first-in-the-nation effort to give patients more information about their health care providers. The Physician Profiles Program remains one of the world's most widely-used sources of physician information for consumers. As Executive Director, Ms. Audesse streamlined the Board's operations; cases requiring formal discipline are reviewed by the Board more effectively, resulting in substantial improvements in case management measures. The agency is now considered a model for Medical Boards across the country.

Under Ms. Audesse's direction, the Board undertook a comprehensive review of its regulations and is proposing substantial revisions for the first time in over 20 years. Ms. Audesse championed the implementation of state-wide quality improvements by supporting the work of the Board's Telemedicine, Credentialing, Medical Training and Medical Spa Task Forces. Her administrative improvements have made the Board more efficient and effective: introducing an electronic document management system and other technological improvements; and improving the medical license renewal process. Among Ms. Audesse's most recent accomplishments was the development of a system for online license renewal. The Board licenses more than 30, 000 physicians.

Ms. Audesse has played a leadership role outside of the Board by serving on the national Consumer Advisory Council and the Committee on Standards of NCQA, the national accrediting authority for health plans. Twice she has been asked to testify before US Congressional Committees on patients' rights issues. She has been an Associate Board Member of the Federation of State Medical Boards, as well as serving on its Special Committee on Scope of Practice. She is also on the Board of Directors of the Visiting Nurse Association of Boston. She has spoken to hundreds of community groups throughout the country on the importance of patient empowerment and has contributed to many publications on health care issues. In 1994, she was honored by Turner Broadcasting Systems as one of five outstanding women in America for her contributions to women's health. She was also the first recipient of the Sullivan Award, named in her honor by the Massachusetts Society of Clinical Oncologists, which recognizes the contributions of non-physicians in the fight against cancer. Ms. Audesse was named the Massachusetts Public Administrator of the year in 2003. In 2004, she received a special recognition award from Good Housekeeping as part of the magazine's commitment to recognize outstanding women in government.

PCA is grateful to Ms. Audesse for her unwavering support of the PCA Program. She recognizes the value of the Program as a means of assuring patient safety and superior quality health care in Massachusetts. She has paved the way for PCA to become a eminent player in national and state wide health care quality initiatives.

We congratulate Ms. Audesse on her retirement and wish her the best in this new phase of her life. She will be sorely missed.

Northeast Hospital Corporation (Beverly Hospital and Addison Gilbert Hospital) reported a new program: "Near Miss" and actual medication incidents are reported through pharmacy or anonymously via a telephone line, specifically dedicated for reporting these events. By allowing for better identification of medication-related incidents, this new initiative has resulted in quality improvements, including expansion of the facility's beta blocker protocol, collaboration between the pharmacy and the laboratory to monitor vancomycin levels, and a revised protocol for sliding scale insulin.

BETH ISRAEL DEACONESS MEDICAL CENTER - NEW QUALITY MEASURES IN OBSTETRICS

New quality measures have been developed for pregnant women by physicians at Beth Israel Deaconess Medical Center. These measures were developed for a clinical trial, evaluating a teamwork initiative studying Crew Resource Management in Labor and Delivery in 2002, funded by the Department of Defense. Beth Israel Deaconess Medical Center was the lead hospital and charged with the task of developing measures that could evaluate whether care had improved after the introduction of these behaviors.[1]

A consensus panel was formed with representatives from nursing, obstetric, and anesthesia leaders from civilian, academic medical centers, involved in the research project and representatives from ACOG; the American Society of Anesthesiology; the Association of Women's Health Obstetric and Neonatal Nurses; the Society for Obstetric Anesthesia and Perinatology; the Armed Forces Institute of Pathology; the U.S. Navy Bureau of Medicine and Surgery; the Office of the Surgeon General, U.S. Army; and TRICARE Management Activity (the U.S. military health system). The consensus panel developed the measures after thoroughly studying existing measures in use for the obstetrical population which at that time mainly included cesarean delivery rates, vaginal birth rates and third and fourth degree lacerations. The panel was interested in developing measures that were clinically relevant, a measure of quality, easily obtainable, clearly definable, had significant frequency or severity and were applicable to institutions with varying number of deliveries. In addition the panel wanted the measures to be potentially impacted by improved teamwork of clinicians. There were 47 candidate measures which were condensed to 10 outcome measures and 12 process measures.[2] Table 1 shows the 10 outcome measures and the weighted score provided by the American College of Obstetrics and Gynecology's Quality Improvement and Patient Safety Committee for each of the measures.

Three new obstetrical quality improvement outcome tools were developed. The Adverse Outcome Index (AOI) is the percent of women who experience one or more of the events listed in *Table 1*. The Weighted Adverse Outcome Score (WAOS) is the average number of adverse event points per delivery, and the Severity Index (SI) is the average number of points per woman who experienced an adverse event. While the measures were developed for the purposes of the study, we continue to use these scoring systems to track the impact of our interventions of quality and safety on outcomes.

For the purposes of the study, data were gathered manually to make these calculations, but it has been our experience that the data can be obtained retrospectively from discharge data routinely obtained from ICD-9 coding information that is provided for billing purposes. The National Perinatal Information Center in Providence, RI has worked with us to develop an algorithm that captures these defined events.

On the basis of data from the National Perinatal Information Center (NPIC), the AOI was measured retrospectively from 1999 through 2001—the three years before implementation. These AOI data were compared to AOI data from 2003–2006, the four years after implementation was complete. The data from 2002 were excluded because the teamwork processes were implemented throughout the year. Between 1999 and 2001, 14,271 women delivered at BIDMC; 836 of these women experienced at least one adverse event, for an average AOI of 5.9% (annual range, 5.3%–6.5%). The average WAOS and SI were 1.15 and 19.59 respectively. During the four years after implementation, 19,380 women delivered, and the average AOI decreased to 4.6%, with an annual range from 4.1% to 5.2%. This represented a 23.0% decrease in adverse obstetric events. Similarly, the WAOS and SI decreased by 33.2% and 13.2%, respectively. The 1.4% absolute drop in the AOI meant that nearly 300 fewer women experienced an adverse event after the implementation of the teamwork initiative.[3]

We believe that we have taken a significant step in generating an easily usable and well-defined set of obstetric outcomes and tools that can be used to measure the quality of care provided on labor and delivery suites.

[1]Nielsen PE, Goldman MB, Mann S, et al. Effects of teamwork training on adverse outcomes and process of care in labor and delivery: a randomized controlled trial. Obstet Gynecol. 2007; 109:48-55.

[2]Mann S, Pratt SD, Gluck P, et al. Assessing Quality in Obstetrical Care: Development of Standardized Measures. Jt Comm J Qual Patient Saf. 2006; 32:497-505.

[3]Pratt SD, Mann S, Salisbury M, et al. Impact of CRM-based training on obstetric outcomes and clinicians' patient safety attitudes. Jt Comm J Qual Patient Saf. 2007; 33:720-5.

TABLE I Outcome Measures Score

Maternal death	750
Intrapartum & neonatal death > 2500 gm	400
Uterine rupture	100
Maternal admission to ICU	65
Birth trauma	60
Return to OR / labor & delivery	40
Admission to NICU > 2500g & for > 24 hours	35
APGAR < 7 at 5 minutes	25
Blood transfusion	20
3º or 4º perineal tear	5

* ICU, intensive care unit; OR, operating room; NICU,neonatal ICU.

Data adapted from Mann S., et al.: Assessing quality in obstetrical care: Development of standardized measures. Jt Comm J Qual Patient Saf 32:497–505, Sep. 2006.

Contributed by: Susan Mann, MD Director of Quality Improvement, Department of Ob/Gyn, BIDMC; Assistant Professor, Harvard Medical School; and Stephen D Pratt, MD, Clinical Director, Obstetric Anesthesia, Department of Anesthesia, Critical Care and Pain Medicine, BIDMC; Assistant Professor, Harvard Medical School.

SAVING LIVES SAVES COSTS: ELIMINATING VENTILATOR ASSOCIATED PNEUMONIA

James Butterick, MD Chief Medical Officer Cape Cod Hospital

Cape Cod Healthcare has found a simple way to measure the important impact of but one of our many hospital quality and safety initiatives.[1] Similar to other hospitals, we are participating in the numerous voluntary reporting initiatives including those from CMS, the Joint Commission, the IHI bundles, and the MHA's Patients First. One aspect of this that caught our attention was part of the VHA Transition of the ICU (TICU) effort to reduce or eliminate Ventilator-Associated Pneumonia or VAP. Others that have implemented these relatively simple, inexpensive and straightforward interventions have seen their VAP rates plummet. Like others, when we initiated these interventions, we were pleased to see that we had similar success.

We all know that there is cost associated with these interventions and for reporting our outcomes. While we all understand the potential for 'good' for patient care that can come from this, our Cape Cod Healthcare Infection Control Director, Gigi Dash, devised a simple, yet effective way to powerfully demonstrate the impact of these maneuvers and to show the remarkable 'good' that can come from them.

Knowing what our prior history had been with VAP from 2005 and 2006 as historical background, (this can be done for other aspects of the IHI bundles including central line-associated sepsis) we could then compare our most current experience. From the literature, we know the approximate dollar cost and mortality rate for this kind of infection. The estimated added cost of VAP is $40,000/case and VAP mortality rates are between 33% - 50%. The accompanying graph shows the number of VAPs that would have been expected to occur applying pre-TICU rates vs. those that actually occurred, lives saved, and costs avoided. By reducing our VAP rate in our ICU and CCU from the prior year's level, we could estimate the lives and dollars saved from our interventions. Our Cape Cod Healthcare Hospital Epidemiologist, Dr. Alan Sugar notes, "This is where the rubber really hits the road. This is why we go through all of the infection control surveillance and maneuvers that we do. It does save money, but more importantly, it really, really does save lives."

Cape Cod Hospital is pleased to report that since the close of their 2007 fiscal year, they continue to have, through May of 2008, a zero incidence of VAP in their ICU and CCU. Falmouth Hospital, also a part of Cape Cod Healthcare, has reported similar positive results from these interventions.

Unit	2006 Mean VAP Rate	# Expected Cases of VAP	# Cases of VAP from Inception of TICU Program 4/07 – 9/07	Lives Saved (40% Mortality)	Cost Avoidance @$40,000/VAP and Lives Saved
ICU	8.0	5	0		$200,000
CCU	3.9	1	0		$40,000
Total		**6**	**0**	2	**Two lives and $240,000 saved**

[1] Cape Cod Health Care is the Cape's leading health care service provider. With more than 400 physicians and 4,600 employees, Cape Cod Healthcare has two-acute care hospitals, (Cape Cod Hospital and Falmouth Hospital), a health services agency (VNA), skilled nursing and rehabilitation facilities, an assisted living facility and numerous health programs.

Perioperative Myocardial Infarctions

Between January and March 2008, PCA reviewed 6 Safety and Quality Reviews (SQRs) involving patients who had perioperative myocardial infarctions. The ages of the patients ranged from 30 years to 80 years. Four of the patients were female and two were male. In four out of the six cases, the reporting hospitals identified ineffective or poor communication of the patient's prior medical history as a factor in the event.

Lessons Learned: Preoperative consults in patients with cardiac risk factors must include medical clearance, which consists of assessment and documentation of cardiac status in H&P, recommendations for follow-up diagnostics and clearly stated recommendations for the perioperative period.

PCA: WHAT HAVE WE SEEN?

During the first three months of 2008, staff reviewed over 198 SQRs. While the reports can be categorized in a number of ways, based on the description of the event and the health care facility's review findings, here is a general breakdown of the types of cases that were reviewed.

SQRs from Hospitals Reviewed by PCA – January - March 2008	
Perioperative or Post-procedure MI or Stroke	8
Wrong site or procedure	11
Retained foreign body	7
Surgical laceration or perforation	16
Wound dehiscence/anastomotic leak or disruption	7
Post surgical medical management	2
Post-surgical Infection	10
Surgical complications (other)	6
Embolism (pulmonary or air)	6
Anticoagulation management	11
Sepsis management	4
Anesthesia complications	4
Endoscopy complications	11
Catheter placement issues (IJ, Epidural, NJ, IV)	13
Radiological procedure related complications (including Interventional Radiology)	5
Medical management	11
Obstetrical management	6
Medication error	8
Equipment failures/problems	3
Chemotherapy related	4
Falls with serious injuries or death	17
Missed or delayed diagnosis	10
Rehab/LTAC (transfer related or falls)	14
Other	4
Total	**198**

Hyperphosphatemia Alert

We received a Safety and Quality Review (SQR) report earlier this year involving acute hyperphosphatemia following colonoscopy prep. A 70 year old patient with chronic kidney disease had a colonoscopy following prep with Fleets Phospho Soda. The colonoscopy was uneventful, but the patient returned the following day and was admitted with acute renal failure, hypocalcemia and acute severe hyperphosphatemia. According to a May 2006 FDA Alert, acute phosphate nephropathy is a rare but serious adverse event associated with the use of oral sodium phosphate products for bowel prep. When it occurs renal impairment may be permanent, requiring chronic dialysis. Higher risk is associated with advanced age, decreased intravascular volume, kidney disease and medications affecting renal perfusion/function, including diuretics, ACE inhibitors, ARBs and NSAIDs. (http://www.fda.gov/cder/drug/infopage/osp_solution/default.htm). The involved facility felt that there was a need for physician education regarding this, which has been implemented. The facility also reviewed and revised the process and documentation tool used by the Endoscopy Department for medical history, incorporating the FDA recommendations for identifying and minimizing risk.

A FREE TO REPORT CULTURE: ELIMINATES THE FEAR OF REPORTING UNEXPECTED OUTCOMES

Blending a transparent Performance Improvement Program with world class physician leadership is key to safe medical practices and maximizing quality outcomes, while minimizing risks. Shriners Burns Hospital—Boston has worked to create a unique and compassionate process for identifying and reviewing unexpected outcomes.

Eliminating the fear encourages unexpected outcome reporting. Reporting, in turn, helps identify actual and potential risks. Identifying unexpected outcomes early and encouraging self reporting decreases the actual number of errors that reach the patient. According to Dr. Don Lighter, Shriners' Assistant Chief Medical Officer, "One of Deming's 14 principles mandates, elimination of rework and inspection by designing quality improvement into each process; the Cost of Quality analysis is an effective tool to achieve this goal." This principle is the cornerstone in designing our systems and processes.

Having a detection system incorporates a robust occurrence capturing and reporting system. Physician led committees and thorough peer review is crucial to sharing data with the PCA Committees, internally and externally. The ability for every provider to report unexpected outcomes, basically, at the point of care is what makes the process work so well. The provider can notify the PCA Coordinator via written communication, voice messaging or through committee that they have identified a potential or actual unexpected outcome.

The process of communicating the findings and improvements is very important to sustain effective reporting. The providers need follow-up and a reassurance that their contributions to patient safety have meaning. Making the workforce more involved in the process while rewarding self reporting leads to improved retention. Additionally our systematic means of identifying, preventing, and eliminating unexpected outcomes through "driving out fear" (Deming) of reporting errors proves to be a key role in reducing unexpected outcomes while promoting a free to report culture. This process is interdisciplinary and connects departments from the Board of Governors to the Medical Staff to Nursing, to Pharmacy to Performance Improvement and everyone in between.

By "driving out fear" and interconnecting departments we not only reduce unexpected outcomes, but get to the root cause of quality care issues and system errors.

We knew that if we could capture more of the potential errors that we could have a positive impact on eliminating errors before they reach the patient. It was necessary to have the assistance of the entire workforce to create a culture free to report. In keeping with the philosophy of Dr. Ronald Tompkins', our Chief of Staff, "Patient Safety has to be everyone's focus. And we have to drive out the fear of reporting."

Shriners Hospital - Boston is a 30 bed acute and reconstructive surgical hospital of the international hospital system of The Shriners Hospitals for Children and is a verified burn center (ACOS and ABA). This article was contributed by Rosemary Hargreaves, RN, BSN, Director of Performance/Risk Mgmt and Patient Care Assessment Coordinator.

SAFETY & QUALITY REVIEW CORNER

Event: Patient developed unrecognized hypoglycemia and died after receiving additional insulin for hyperglycemia, per telephone order.

Hospital Findings: A multidisciplinary team, including nursing and pharmacy, identified three main causes: nursing inexperience and knowledge deficits; communication lapses; and non-standardization of insulin therapy. The evening nurse , a new graduate, did not report to the night shift that she gave the patient additional insulin, per the physician's telephone order. During the night shift, lab personnel, asked to draw a blood glucose, did not immediately inform the nursing staff when the patient was not responsive. A knowledge deficit regarding duration of insulin's action was found among the nurses involved, as well as in a random check of other nurses. The non-standardization of insulin therapy was also cited. The physician involved in this case had changed the patient's insulin dosage prior to this episode, but had not ordered additional monitoring.

Actions Recommended/Taken: Education of all nursing staff was conducted with competency testing required. Communication between nursing shifts was addressed: shift report is now given in both written and verbal format. Lab personnel were instructed to directly inform the nursing staff if a patient is found unresponsive or unsafe. Corrective measures included the development of an insulin administration guideline/protocol/order set. Modifications were made to the nursing policy/ procedure parameters for the monitoring of blood glucose when short-acting insulin is administered. Procedures for responding to hypoglycemia were also reviewed and revised.

Dr. WHITTEMORE ELECTED PRESIDENT OF THE AMERICAN SURGICAL ASSOCIATION

Dr. Anthony D. Whittemore, Chair of PCA's Credentialing Expert Panel and Credentialing Subcommittee, was recently elected President of the American Surgical Association. Dr. Whittemore is currently the Chief Medical Officer for Brigham and Women's Hospital (BWH). He served as Director of the hospital's Surgical Residency Training Program from 1980 to 1991 and, subsequently, Chief of the Division of Vascular Surgery from 1990–2003. Dr. Whittemore also was Vice-Chair of the Department of Surgery and is Professor of Surgery at Harvard Medical School.

Dr. Whittemore served as Chairman of both BWH's Medical Staff Executive and Quality Assurance/Risk Management Committees. He also served as Director of the multidisciplinary BWH Vascular Center. He is a member of 20 professional societies including the American Medical Association, American College of Surgeons, American Surgical Association, Society of University Surgeons, and has served as President of the Boston Surgical Society, New England Society for Vascular Surgery, the International Society for Vascular Surgery and currently the American Surgical Association.

Dr. Whittemore has brought valuable experience and expertise to the Credentialing Expert Panel and Subcommittee. Under his leadership, the Expert Panel developed guidelines for competency-based credentialing that are now available to health care facilities. He presented the work of the Expert Panel at the Federation of State Medical Board meeting in April 2008. The Expert Panel Guidelines are available at: http://www.massmedboard.org/pca/pdf/credentialing_guidelines_2008.pdf.

We're Moving

MA Board of Registration in Medicine's Address as of July 21, 2008;

200 Harvard Mill Square, Suite 330

Wakefield, MA 01880

781 876-8200

New PCA Links

Glacial Acetic Acid Advisory:

http://www.massmedboard.org/pca/pdf/glacial_acetic_acid_advisory2008.05.08.pdf

Guidelines for Competency-Based Hospital Credentialing:

http://www.massmedboard.org/pca/pdf/credentialing_guidelines_2008.pdf.

CONTACT PCA

To be added to the PCA Newsletter and advisory mailing list, update hospital contact information, submit an article, request an SQR form, or obtain additional information, contact Sheila Rhea-Nobles at sheila.rhea-nobles@state.ma.us or (617) 654-9896. Until July 21st, send mail to MA Board of Registration in Medicine, PCA Division, 560 Harrison Avenue, G-4, Boston MA 02118.

MEDICAL BOARD NEWS

- Executive Director, Nancy Achin Audesse, is retiring, after faithfully serving in that position for 10 years.
- Dr. Martin Crane recently ended his tenure as Chairman of the Medical Board, but was named President-Elect of the Federation State Medical Boards at the Federation's Annual Meeting in April 2008.
- Dr. John Herman, Chair of the PCA Committee, is the new Chairman of the Medical Board.
- Three new members have been appointed to the Board: The Honorable Herbert H. Hodos, recently retired First Justice of the Greenfield District Court; Dr. Myechia Minter-Jordan, Chief Medical Officer of Dimock Community Health Care Center; and Dr. Megan T. Sandel, Assistant Professor of Pediatrics at Boston Medical Center.